AMENDMENTS TO THE DRAWINGS

The attached sheets of drawings include changes to Figs 8-15C and 19A-20F. These sheets, which include Figs. 8-15C and 19A-20F, replace the original sheets including Figs. 8-15C and 19A-20F. In the Figures, shading has been deleted.

Attachment: Replacement Sheet(s)

REMARKS/ARGUMENTS

Claims 1-31, 33-38, 41-80 and 84 are present in this application. By this Amendment, the specification and claims 1, 2, 4, 6, 9, 10, 12, 14, 29, 31, 35-38, 41, 43-45, 49, 50, 51, 53, 58, 59, 65-67, 69, 70, 71, 75-80 and 83 have been amended, claims 32, 39 and 40 have been canceled, and claim 84 has been added. Reconsideration in view of the above amendments and the following remarks is respectfully requested.

Applicants acknowledge the Examiner's commentary with regard to compact prosecution. Applicants note that the Patent Office fee structure is designed to more than adequately compensate the Patent Office for any added burden in examining numerous claims. The pending claims are desirable to the Applicants, and the appropriate Government filing fee has been paid.

The drawings were objected to on page 4 of the Office Action. Without conceding the objection, corrected drawings have been submitted herewith. Withdrawal of the objection is requested.

The claims were objected to due to a number of informalities. The informalities noted in the Office Action have been corrected by this Amendment. With regard to the numbering of claims, Applicants acknowledge that some of the claims may be out of order. It is not clear from the MPEP, however, how the order of claims can be corrected. Rather, MPEP §608.01(n) provides that "in general, applicant's sequence will not be changed." Moreover, 37 C.F.R. §1.126 and MPEP §608.01(j) provide that "the original numbering of the claims must be preserved throughout the prosecution." For the Examiner's convenience, attached herewith is a supplemental claim set with claims in the appropriate order while maintaining the original numbering of the claims. Withdrawal of the objections is requested.

Claims 1-10, 12-15, 18, 29-71, 75-80 and 83 were rejected under 35 U.S.C. §112, second paragraph. Without conceding this rejection, the claims have been amended to more clearly satisfy the requirements of 35 U.S.C. §112, and in particular to address the concerns raised in the Office Action. Withdrawal of the rejection is requested.

With regard to the rejections over prior art, in each statement of grounds of rejection, the Office Action contends that "the prior art structure is presumed to be fully capable of performing applicant's functional limitations in accordance with MPEP 2112.01(I)." This section in the MPEP, however, requires that the Patent Office "show a sound basis for believing that the products of the applicant and the prior art are the same." Applicants respectfully submit that the presumptions in the Office Action are made without explanation and consequently fail to meet this requirement.

The structure defined in the claimed invention is shown in, for example, Figs. 1A, 1B, 2 and 3. As shown, the design and arrangement of the modules allows relative movement in-plane (i.e., rotation about an axis perpendicular to the plane of the sheet). This allows the area of the sheet to be substantially reduced (by at least 20%) even while the sheet remains flat. As discussed in more detail below, the structure in each and every prior art document relied on by the Examiner is significantly different, and *per se* would not be able to achieve the claimed reduction in area. Applicants thus respectfully submit that the Examiner has no sound basis for "presuming" that the products of the prior art references and that of the claimed invention are the same.

Additionally, according to the Federal Circuit, "the limitations which must be met by an anticipatory reference are those set forth in each statement of function . . .. Such a limitation cannot be met by an element in a reference that performs a different function, even though it may

be part of a device embodying the same general overall concept." See, e.g., *RCA Corp. v. Applied Digital Data Sys., Inc.*, 730 F.2d 1440 (Fed. Cir. 1984). Since the references of record in fact are incapable of achieving the claimed reduction in area while remaining flat, Applicants submit that for at least this reason, the rejections are misplaced. That is, none of the prior art documents discloses a flexible sheet structure having the same degree of flexibility as is presently claimed. In particular, no prior art document discloses a sheet that is capable of having its area reduced to 80% or less of its original size, while remaining flat.

The mechanism by which the present invention reduces its area can be seen by comparing Figs. 1A and 1B of the present application. As shown, the modules may rotate with respect to each other about an axis that is perpendicular to the plane of the sheet. This allows the modules to move closer together, thereby reducing the total area. This effect is also seen by comparing Figs. 2 and 3, which have the same number of modules, but quite different areas.

Claims 1-10, 12-15, 18, 29-71, 75-80 and 83 were rejected under 35 U.S.C. §102(b) or, in the alternative, under 35 U.S.C. §103(a) over U.S. Patent No. 4,142,816 to Kramer. This rejection is respectfully traversed.

Kramer discloses an interconnecting device for a floating breakwater. The features identified with numeral 10 in Fig. 1 are columns that are "elongated masses of concrete or steel that are triangular in cross-sectional shape." Quite clearly, the device is not a "sheet" structure. Furthermore, the device permits only limited rotational and torsional movement between the respective breakwater columns (see col. 1, line 33). From Fig. 1, it is apparent that the amount of movement possible is extremely limited and that the device as a whole would struggle to reduce its area by 1% let alone 20% as claimed. Applicants thus submit that the movement

defined according to the claimed invention is not at all possible with the Kramer device, which only allows a very limited movement.

Furthermore, Applicants submit that it would not have been obvious to modify Kramer to correct these deficiencies. Such modifications would require considerable invention, and Kramer does not provide even a remote suggestion of how such modifications could be effected. That is, the triangular structure of Kramer creates a very rigid arrangement that would present a high resistance to permanent deformation of the structure within the plane of the structure. The flexibility of the joints only provides for a degree of rotation that is "limited by the clearance space between the members" (see col. 2, lines 35 and 36). The material used allows for elastic deformation of the members to absorb wave energy within the breakwater. Accordingly, any reduction in area, if any can be made at all, is due to elastic deformation and not due to relative movement of modules.

The independent claims each define recite that an area of the sheet can be reduced to 80% or less of its original size, while remaining flat. Since at least this subject matter is lacking in Kramer, Applicants submit that the rejection is misplaced. With regard to the dependent claims, Applicants submit that these claims are allowable at least by virtue of their dependency on an allowable independent claim.

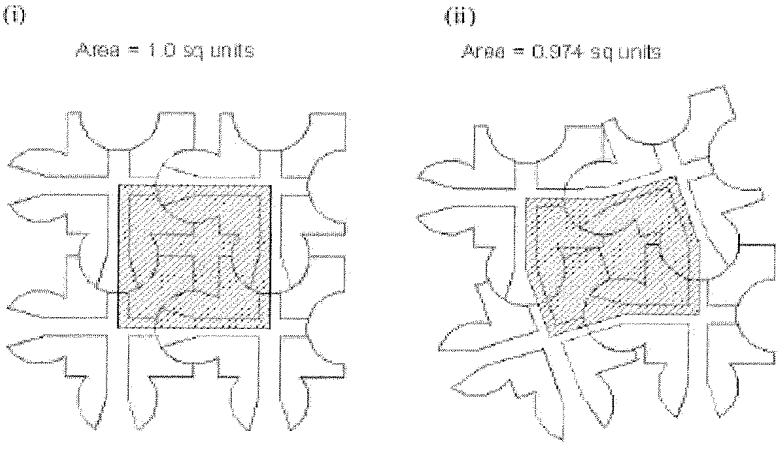
Reconsideration and withdrawal of the rejection are respectfully requested.

Claims 1-10, 12-15, 18, 29-71, 75-80 and 83 were rejected under 35 U.S.C. §102(b) or, in the alternative, under 35 U.S.C. §103(a) over U.S. Patent No. 4,367,897 to Cousins. This rejection is respectfully traversed.

The construction disclosed in Cousins '897 has been carefully analyzed by the present inventors and, as will be described below, the structure disclosed in Cousins greatly differs from

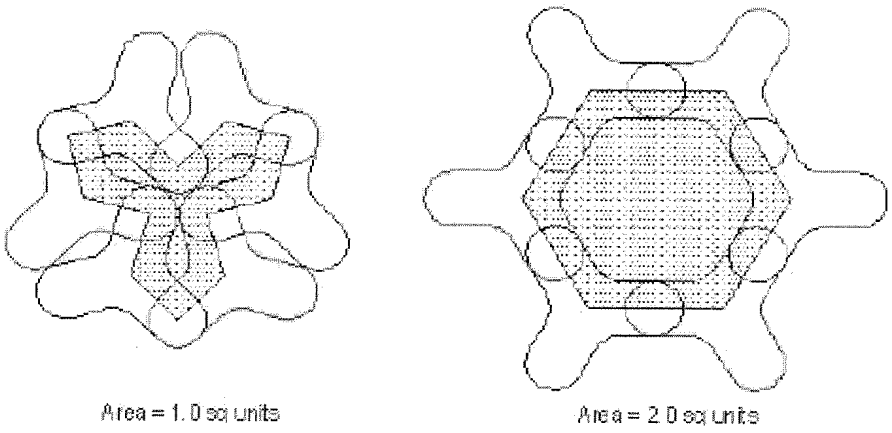
that described in the present application both in terms of its form and its capabilities. The structure disclosed in Cousins '897 simply does not have the practical capability to vary its effective area while the sheet remains flat. Referring to Fig. 2 of Cousins, the structure shown is rather like a sheet of fabric material in that it can be bent and folded (due to its flexibility) but cannot undergo any localized variations in density. It is exactly for this reason that the slots 54 (see Fig. 2 and col. 3, lines 20-24) are provided. These slots ensure that there are no bulges or unsightly overlapping at the sides of the seat. These slots are necessary in order to remove some of the material and allow the material to be more smoothly conformed around the complex shape. Connections between the modules are not designed so as to allow any appreciable localized density changes.

This can be further explained by analysis of the embodiments shown in Figs. 5 to 8 of Cousins '897. Any potential area change in the sheet (while it remains flat) will come about due to in-plane rotation of one module relative to another. The two diagrams below show and contrast the situation where (i) there is no relative rotation between modules, and (ii) there is maximum relative rotation between modules.



Measurement of the sheet area shows that the area of the sheet can only be reduced to 97.4% of its original size, while remaining flat. Any further reduction in area is simply not possible in Cousins '897. It is for this reason that Cousins '897 requires the slots 54 shown in Fig. 2 and it is this which prevents the sheet structure of Cousins '897 being smoothly conformed around complex shapes.

The embodiment of Cousins '897 can be compared with the embodiment of Fig. 1 of the present invention. As shown in the diagrams below:



The area of the sheet on the left is reduced to 50% of the area of the sheet on the right.

In practice, an area reduction to 50% is not always essential; it is sufficient to achieve an area reduction to 80% to still obtain the benefits of the present invention. It is quite clear that the structure disclosed in Cousins '897 cannot achieve an area reduction anything like the 20% claimed in the independent claims, at best being able to achieve up to 2.5%.

Starting from Cousins '897, Applicants submit that there is no motivation in the prior art to come up with any of the structures defined according to the claimed invention, which allow area reductions of 20% or more. Consequently, Applicants submit that the rejection is

misplaced. With reference to the dependent claims, Applicants submit that these claims are allowable at least by virtue of their dependency on an allowable independent claim.

Reconsideration and withdrawal of the rejection are respectfully requested.

Claims 1-10, 12-15, 18, 29-71, 75-80 and 83 were rejected under 35 U.S.C. §102(b) or, in the alternative, under 35 U.S.C. §103(a) over U.S. Patent No. 3,256,785 to Stammbach. This rejection is respectfully traversed.

Stammbach describes elements that are designed to be fitted together to form a sheet structure that will fit a given area of ground. The joints between the elements have a number of positions that can be selected to produce the desired orientation between the elements. However, once the joints have been made, the elements are held in their positions by the rigid joints. It is important in this application that the elements do not move in service.

Accordingly, any flexibility in the sheet structure is provided by selection of how to fit the components together, rather than by movement of modules relative to one another after the sheet has been constructed. It is apparent from Fig. 1 of Stammbach that the constructed sheet has modules that are rigidly attached together and cannot move to any significant degree at all. Certainly, it would thus be completely impossible to manipulate the sheet so as to reduce its area to 80% or less of its original size, while remaining flat.

Since at least this subject matter is lacking in Stammbach, Applicants submit that the rejection is misplaced. With reference to the dependent claims, Applicants submit that these claims are allowable at least by virtue of their dependency on an allowable independent claim.

Reconsideration and withdrawal of the rejection are respectfully requested.

Claims 1-10, 12-15, 18, 29-71, 75-80 and 83 were rejected under 35 U.S.C. §102(b) or, in the alternative, under 35 U.S.C. §103(a) over U.S. Patent No. 4,484,778 to Cousins. This rejection is respectfully traversed.

Although having a slightly different design than Cousins '897, the modules and sheet structure disclosed in Cousins '778 are similar in function to those disclosed in Cousins '897. Again, the modules are closely packed together in the assembled sheet, and very little relative rotation between modules is possible. Accordingly, it is impossible for the Cousins '778 structure to have its area reduced to 80% or less of its original size, while remaining flat. Since at least this subject matter is lacking in Cousins '778, Applicants submit that the rejection is misplaced. With reference to the dependent claims, Applicants submit that these claims are allowable at least by virtue of their dependency on an allowable independent claim.

Reconsideration and withdrawal of the rejection are respectfully requested.

Claims 1-10, 12-15, 18, 29-71, 75-80 and 83 were rejected under 35 U.S.C. §102(b) or, in the alternative, under 35 U.S.C. §103(a) over U.S. Patent No. 3,583,091 to Brockway. This rejection is respectfully traversed.

Brockway discloses a spinning toy. Fig. 4 shows up to three of the toys being connected together so as to provide an "expanded sound producing capability." The three toys connected together in Fig. 4 cannot be considered to be a "sheet" in the context of the present invention. Even if somehow the toys could be used so as to create a "sheet" from a large number of the modules, such sheet would be mechanically rigid and unable to accommodate relative rotation between adjacent modules. Accordingly, it would not be possible to reduce the area of the sheet to 80% or less of its original size, while the sheet remains flat.

. Since at least this subject matter is lacking in Brockway, Applicants submit that the rejection is misplaced. With reference to the dependent claims, Applicants submit that these claims are allowable at least by virtue of their dependency on an allowable independent claim.

Reconsideration and withdrawal of the rejection are respectfully requested.

Claim 84 has been added and is directed to the use of electromagnetic radiation to perform the transition mentioned in claim 53. Support for this subject matter can be found in the specification at, for example, page 25, lines 1-12. Applicants submit that claim 84 is allowable at least by virtue of its dependency on an allowable independent claim.

In view of the foregoing amendments and remarks, Applicants respectfully submit that the claims are patentable over the art of record and that the application is in condition for allowance. Should the Examiner believe that anything further is desirable in order to place the application in condition for allowance, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

Prompt passage to issuance is earnestly solicited.

The Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, in the fee(s) filed, or asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to Deposit Account No. 14-1140.

Respectfully submitted,

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SUPPLEMENTAL CLAIM SET

1. (Currently Amended) A flexible sheet structure comprising:

a plurality of modules ~~connected together,~~;

said plurality of modules being connected together so that each module of said plurality of modules is capable of rotating about first and second axes with respect to a ~~neighbouring~~ neighboring module of said plurality of modules to which it is connected, said first axis being parallel to the plane of the sheet when laid flat and said second axis being orthogonal to the plane of the sheet when laid flat;

wherein an area of said sheet can be reduced to 80% or less of its original size, while remaining flat.

2. (Currently Amended) A flexible sheet structure according to claim 1, wherein a module of said plurality of modules can rotate relative to a ~~neighbouring~~ neighboring module of said plurality of modules to which ~~it~~ said module is connected about said axis parallel to the plane of the sheet when laid flat through at least the full range of -10° to +10°.

3. (Original) A flexible sheet structure according to claim 2, wherein said rotation is at least through the full range of -20° to +20°.

4. (Currently Amended) A flexible sheet structure according to claim 3, wherein a module of said plurality of modules can rotate relative to a ~~neighbouring~~ neighboring module of said plurality of modules to which ~~it~~ said module is connected about said axis parallel to the plane of the sheet when laid flat by between no more than -60° and no more than +60°.

5. (Original) A flexible sheet structure according to claim 4, wherein said rotation is between no more than -30° and no more than +30°.

6. (Currently Amended) A flexible sheet structure according to ~~-~~claim 1, wherein a module of said plurality of modules can rotate relative to a ~~neighbouring~~ neighboring module of said plurality of modules to which ~~it~~ said module is connected about said axis orthogonal to the plane of the sheet when laid flat through at least the full range of -10° to +10°.

7. (Original) A flexible sheet structure according to claim 6, wherein said rotation is at least through the full range of -30° to +30°.

8. (Original) A flexible sheet structure according to claim 7, wherein said rotation is at least through the full range of -80° to +80°.

9. (Currently Amended) A flexible sheet structure according to ~~-~~claim 1, wherein each module of said plurality of modules has a plurality of nodes and at least one of said modules has each of its plurality of nodes connected to a node of a different ~~neighbouring~~ neighboring module.

10. (Currently Amended) A flexible sheet structure according to claim 9, wherein each module of said plurality of modules has ~~3 and~~ only 3 nodes.

12. (Currently Amended) A flexible sheet structure according to claim 10, wherein each node is located at ~~the~~ an end of an arm.

13. (Currently Amended) A flexible sheet structure according to claim 12, wherein each arm of ~~the~~ each module lies parallel to the plane of the sheet when laid flat.

11. (Withdrawn) A flexible sheet structure according to claim 9, wherein each module has 4 and only 4 nodes.

14. (Currently Amended) A flexible sheet structure according to ~~-~~claim 9, wherein each ~~nodal~~ connection between respective ones of said plurality of modules is a single joint that allows both said rotation orthogonal to the plane of the sheet when laid flat and said rotation

parallel to the plane of the sheet when laid flat~~, preferably~~ simultaneously such that rotation about a single axis intermediate said orthogonal and parallel axes is possible.

15. (Original) A flexible sheet structure according to claim 14, wherein said single joint has a neutral axis oriented at substantially 90° to the plane of the sheet when laid flat.

16. (Withdrawn) A flexible sheet structure according to claim 14, wherein said single joint has a neutral axis oriented at an angle to the plane of the sheet when laid flat.

17. (Withdrawn) A flexible sheet structure according to claim 14, wherein said single joint has a neutral axis oriented substantially parallel to the plane of the sheet when laid flat.

18. (Currently Amended) A flexible sheet structure according to claim 14, wherein said single joint is a ball~~/~~ and socket joint.

19. (Withdrawn) A flexible sheet structure according to claim 18, wherein said ball/socket joint is a double ended ball/socket joint comprising two balls and two sockets.

36. (Currently Amended) A flexible sheet structure according to -claim 9, wherein each module of said plurality of modules is connected to a plurality of ~~neighbouring~~ neighboring modules of said plurality of modules.

20. (Withdrawn) A flexible sheet structure according to claim 1, wherein a module can rotate relative to a neighbouring module to which it is directly or indirectly connected about said axis parallel to the plane of the sheet when laid flat by between at least the full range of -90° to +90°.

21. (Withdrawn) A flexible sheet structure according to claim 20, wherein a module can rotate relative to a neighbouring module to which it is directly or indirectly connected about said axis parallel to the plane of the sheet when laid flat by between at least the full range of -180° to +180°.

22. (Withdrawn) A flexible sheet structure according to claim 20, wherein a module can rotate relative to a neighbouring module to which it is directly or indirectly connected about said axis orthogonal to the plane of the sheet when laid flat by at least between -100° and +100°.

23. (Withdrawn) A flexible sheet structure according to claim 22, wherein a module can rotate relative to a neighbouring module to which it is directly or indirectly connected about said axis parallel to the plane of the sheet when laid flat by between no more than -120° and no more than +120°.

24. (Withdrawn) A flexible sheet structure according to claim 1, wherein at least one module of said sheet is connected to a neighbouring module via a linking component.

25. (Withdrawn) A flexible sheet structure according to claim 24, wherein said at least one module is connected to said linking component by a joint which allows relative rotation between the module and linking component about said axis parallel to the plane of the sheet when laid flat.

26. (Withdrawn) A flexible sheet structure according to claim 25, wherein said linking component comprises two members connected together by a joint which allows relative rotation between the two members about an axis orthogonal to the plane of the sheet when laid flat.

27. (Withdrawn) A flexible sheet structure according to claim 24, wherein each module is connected to a linking component by a joint which allows relative rotation between the module and the linking component about said axis orthogonal to the plane of the sheet when laid flat.

28. (Withdrawn) A flexible sheet structure according to claim 24, wherein said linking component is a single linear member having a ball at each end thereof.

29. (Currently Amended) A flexible sheet structure according ~~-~~to claim 1, wherein ~~the modules and optional linking components~~ said plurality of modules are connected together so as to form a regular pattern of closed loops in said plane.

30. (Currently Amended) A flexible sheet structure according to claim 29, wherein the loops can close in to reduce in area while the sheet remains flat due to relative rotation of said plurality of modules about said axis orthogonal to the plane of the sheet when laid flat.

31. (Currently Amended) A flexible sheet structure according to ~~-~~claim 1, wherein the effective area of the whole or part of the sheet can be varied while the sheet remains flat.

32. (Canceled)

33. (Currently Amended) A flexible sheet structure according to claim ~~31~~1, wherein the area of said sheet can be reduced to 60% or less of its original size, while remaining flat.

34. (Currently Amended) A flexible sheet structure according to claim ~~34~~1, wherein the area of said sheet can be reduced to 40% or less of its original size, while remaining flat.

35. (Currently Amended) A flexible sheet structure according to ~~-~~claim 1, wherein each module of said plurality of modules is capable of rotating relative to a ~~neighbouring~~ neighboring module of said plurality of modules to which it is connected about each of the mutually orthogonal axes that lie in the plane of the sheet when laid flat.

42. (Currently Amended) A flexible sheet structure according to ~~-~~claim 1, wherein each module of said plurality of modules is constructed of substantially rigid and non-flexible plastics material.

43. (Currently Amended) A flexible sheet structure according to ~~-~~claim 1, wherein the connections between said plurality of modules are arranged such that pure relative translation between ~~neighbouring~~ neighboring modules of said plurality of modules is not possible.

44. (Currently Amended) A flexible sheet structure according to ~~-~~claim 1, wherein each module ~~in the sheet~~ of said plurality of modules is substantially similar in shape to the other modules ~~of the sheet~~.

46. (Currently Amended) A flexible sheet structure according to ~~-~~claim 1, further comprising additional material applied so as to give a smooth outer surface for said sheet structure.

47. (Original) A flexible sheet structure according to claim 46, wherein said additional material is a thin covering material adhered to the plurality of modules.

48. (Original) A flexible sheet structure according to claim 46, wherein said additional material is applied as a fluid so as to encapsulate the plurality of modules.

49. (Currently Amended) A module for use in the flexible sheet structure of ~~-~~claim 1.

83. (Currently Amended) A spinal brace comprising the flexible sheet structure of ~~any one of~~ claim 1.

37. (Currently Amended) A flexible sheet structure comprising:

a plurality of modules connected together, at least one of said modules being connected to another of said ~~module~~ modules by a multiple degree of freedom joint that has a neutral axis oriented substantially at 90° to the plane of the sheet when laid flat;

wherein an area of said sheet can be reduced to 80% or less of its original size, while remaining flat.

38. (Currently Amended) A flexible sheet structure according to claim 37, wherein each of said ~~module of the sheet~~ modules is connected to another ~~module~~ of said modules by a multiple degree of freedom joint that has a neutral axis oriented substantially at 90° to the plane of the sheet when laid flat.

39-40. (Canceled)

41. (Currently Amended) A flexible sheet structure comprising:

a plurality of modules connected together, each of said modules having first, second and third arms, each of said arms being regularly spaced from the other two said arms, each of said ~~arm~~ arms being connected to an arm of a ~~neighbouring~~ neighboring one of said ~~module~~ modules so that each ~~module of the sheet~~ of said modules is capable of rotating with respect to its ~~neighbouring~~ neighboring module of said plurality of modules about an axis orthogonal to the plane of the sheet when laid flat;

wherein an area of said sheet can be reduced to 80% or less of its original size, while remaining flat.

45. (Currently Amended) A flexible street structure comprising:

a plurality of modules ~~connected together,~~;

said plurality of modules being connected together so as to allow ~~the~~ an effective area of the sheet to be varied while the sheet remains flat and to allow out of plane movement so that the sheet may be smoothly conformed around complex shapes;

wherein an area of said sheet can be reduced to 80% or less of its original size, while remaining flat.

50. (Currently Amended) A module for use in a flexible sheet structure, said module having arms with each arm comprising one half of a multiple degree of freedom joint, for connection with the other half of the multiple degree of freedom joint located on an arm of a ~~neighbouring~~ neighboring module in the sheet, said multiple degree of freedom joint half being oriented such that ~~the~~ a resulting multiple degree of freedom joint will have a neutral axis oriented out of ~~the~~ a plane of the sheet when flat;

wherein the area of a sheet made from a plurality of said modules can be reduced to 80% or less of its original size, while remaining flat.

51. (Currently Amended) A module according to claim 50, wherein said multiple degree of freedom joint half is oriented at 90° to ~~the~~ a major plane of the module.

52. (Previously Presented) A module according to claim 51, wherein said multiple degree of freedom joint half is one of a ball and a socket.

53. (Currently Amended) A lockable articulated structure comprising:

a plurality of modules connected together so that said modules are selectively moveable with respect to one another~~,~~;

at least one connection between two of said modules comprising a locking material capable of assuming at least two states, said at least two states including a first state which allows relative movement of said ~~components~~ modules and a second state which at least substantially prevents such movement, a transition between said two states being accomplished by ~~the~~ a selective introduction of energy to said locking material;

wherein an area of said sheet can be reduced to 80% or less of its original size, while remaining flat.

54. (Original) A structure according to claim 53, wherein said selective movement is rotation.

55. (Original) A structure according to claim 54, wherein said rotation is about more than one axis.

56. (Previously Presented) A structure according to claim 53, wherein said first state is a softer state than said second state.

57. (Original) A structure according to claim 56, wherein said second state is a frozen state.

58. (Currently Amended) A structure according to claim 57, wherein said transition is from said frozen state to said ~~soft~~ softer state and is accomplished by providing heat to said locking material.

59. (Currently Amended) A structure according to claim 58, wherein said locking material is susceptible of being heated by microwave energy to a greater extent than the material of the articulated structure such that heat may be provided to said locking material by subjecting the ~~whole~~ articulated structure to microwave radiation.

60. (Previously Presented) A structure according to claim 53,wherein said first state is an expanded state and said second state is a compressed state.

62. (Previously Presented) A structure according to claim 60, wherein said transition is from said compressed state to said expanded state and is accomplished by providing heat or electricity to said locking material.

61. (Previously Presented) A structure according to claim 53, wherein said first state is a compressed state and said second state is an expanded state.

63. (Previously Presented) A structure according to claim 53, wherein said first state is a non-adhered state and said second state is an adhered state.

64. (Original) A structure according to claim 63, wherein said transition is from said non-adhered state to said adhered state and is accomplished by providing heat, UV radiation or electricity to said connection.

65. (Currently Amended) A structure according to claim 53, wherein said first state is a ~~pressurised~~ pressurized state and said second state is ~~a unpressurised~~an unpressurized or less ~~pressurised~~ pressurized state.

66. (Currently Amended) A structure according to claim 65, wherein said transition is from said ~~unpressurised~~ unpressurized or less ~~pressurised~~ pressurized state to said ~~pressurised~~ pressurized state and is accomplished by pumping a hydraulic or pneumatic fluid through said connection.

67. (Currently Amended) A structure according to ~~-~~claim 53, wherein said transition is reversible.

68. (Currently Amended) A structure according to ~~-~~claim 53, wherein said connection is a ball~~-~~ andsocket joint and said locking material is disposed at least partly around the ball.

69. (Currently Amended) A structure according to claim 68, wherein at least one of said ball ~~and/or~~and said socket has a flat portion, and said locking material is located adjacent said flat portion.

70. (Currently Amended) A structure according to claim 68, wherein there are provided topographical features that prevent rotation about ~~the~~ a neutral axis of said ball~~/~~ and socket joint when said structure is locked.

71. (Currently Amended) A structure according to claim 70, wherein said ball or socket has at least one ~~or more~~ groove-shaped topographical ~~features~~ feature in which said locking material is located.

72. (Withdrawn) A structure according to claim 53, wherein said connection is a pivot comprising a shaft part and an annular part.

73. (Withdrawn) A structure according to claim 72, wherein said locking material is located between said shaft part and said annular part.

74. (Withdrawn) A structure according to claim 73, wherein said shaft or annular part has a non-cylindrical face and said locking material is located adjacent said face.

75. (Currently Amended) A structure according to -claim 53, wherein said material is a thermoplastic material.

76. (Currently Amended) A structure according to -claim 53, wherein said material is a eutectic material.

77. (Currently Amended) A structure according to -claim 53, wherein said material is a thermosetting material.

78. (Currently Amended) A structure according to -claim 53, where said material is a polymer.

79. (Currently Amended) A structure according to -claim 53, wherein said material is a thixotrophic fluid or a rheopectic fluid so as to provide differing amounts of effective viscosity according to the level of force acting on the structure.

80. (Currently Amended) A flexible sheet structure comprising the lockable articulated structure of -claim 53.

81-82. (Cancelled)

84. (New) A structure according to claim 53, wherein said transition is from said non-adhered state to said adhered state and is accomplished by providing electromagnetic radiation to said connection.